

REMARKS

In accordance with the foregoing, claims 4, 8, 10, 12, 14 and 17 have been amended. Claims 1-3, 5 and 11 have been cancelled. Claims 4, 6-10 and 12-18 are pending and under consideration.

PRIOR ART REJECTION UNDER 35 U.S.C. §§ 102(b) and 103(a)

In the Office Action, on page 2, claims 1-18 are rejected under 35 U.S.C. §102(b), as anticipated by, or in the alternative, under 35 U.S.C. §103(a) as obvious over EP 1260498 (EP '498).

Examiner asserts that EP '498 (paragraphs 266, 272-277, 282, 284, 286, and 286, and examples 1 and 24) discloses compositions of urea-urethane developers that are heated at 60 °C or lower. Citing the occurrence of calcium carbonate in Examples 1 and 24 of EP '498, the Examiner argues that claim 7 is anticipated. Citing the fact that aluminum oxide, magnesium silicate and acid developers may be optionally present in EP 498, the Examiner argues that it would have been obvious to one skilled the art to use the optional acidic developers, aluminum oxide or magnesium silicate in the disclosed grinding. Examiner also asserts that the compositions of the claimed invention are substantially the same as those of EP '498, even though EP '498 does not require heating. The Examiner argues that while the specification describes that heating at 40 °C or above for at least 3 hours is necessary to produce substantial change in the urea-urethane compositions, some claims do no require any particular length of time, while some claims do not require any heating at all.

Applicants respectfully disagree with Examiner because claims 1-18 are not anticipated by, or unpatentable in view of EP '498 in light of this amendment. In this amendment:

(A) Claims 1-3, 5, and 11 are cancelled.

(B) Claim 4 is amended by adding the phrase "wherein at least one of component (a) and component (b) has been subjected to heat treatment at a temperature of 40 °C to 90 °C."

(C) Claims 8, 14 and 17 are amended to depend from claim "4" instead of claim "1."

(D) Claim 10 is amended by adding the phrase "wherein the heat treatment has been carried out at a temperature of 40 °C to 90 °C for 3 hours or more" and deleting the phrase "comprising a dispersion 40 °C or more."

(E) Claim 12 is amended by adding the phrase "wherein both of component (a) and component (b) have been subjected to heat treatment at a temperature of 40 °C to 90 °C for 3 hours more," and deleting the phrase "comprising a dispersion 40 °C or more."

This amendment is supported by the specification at paragraphs such as those at page 30, line 11 to page 33, line 17. No new matter is introduced by this amendment.

As a result of this amendment, claims 4, 6-10, and 12-18 are not anticipated by, or unpatentable in view of EP '498 for the following reasons.

Claims 4, 6-10, and 12-18 are now directed to a composition comprising a component (a), and a component (b), wherein at least one of component (a) and component (b) has been subjected to heat treatment at a temperature between 40 °C and 90 °C. One potential objective described in the specification, but not claimed, is to provide a dispersion composition that can (i) reduce degradation of the whiteness over time (liquid discoloration) of an application fluid (page 4, lines 16-18), and (ii) improve the white-portion coloration (resistance to wet discoloration of a white portion) of the thermal recording paper (page 4, lines 23-25). Different objectives may be achieved in the alternative; and the claims are not limited to what is disclosed in the specification. By using a composition in which at least one of component (a) and component (b) has been subjected to heat treatment, discoloration may be improved. By using the heat treatment described in the specification (from page 30, line 11, to page 33, line 17), examples of improvements that can be achieved include those reported in Tables 2 (pages 79-81), 4-2 (pages 134-136), and 6-6 (page 150).

In contrast, EP '498 does not disclose that the components therein have been subjected to heat treatment. Although Examiner asserts that EP '498 discloses compositions of urea-urethane developers which are "heat treated at 60 degrees C or lower," EP '498 subsequently states that, because at the time of wet grinding, the urea-urethane compound comes into contact with water and therefore, "sensitivity of a heat-sensitive recording material ... tends to be decreased" (page 91, lines 41-42). According to EP '498, the medium temperature at the grinding "is more preferably 40 °C or lower" (page 91, line 43). Therefore, claims 4, 6-10, and 12-18 are not anticipated by EP '498.

Furthermore, EP '498 does not teach or suggest that heat treatment of the components therein would have achieved the improvement in lowering with time of the whiteness (liquid discoloration) of an application fluid, and the white-portion coloration (resistance to wet discoloration of a white portion) of the thermal recording. As presented above, the medium temperature at the grinding in EP '498 "is more preferably 40 °C or lower." Because EP '498

teaches away from the invention, it would not have been obvious to one ordinary skill in the art to use the teachings of EP '498 to arrive at the invention. Therefore, claims 4, 6-10, and 12-18 are not unpatentable in view of EP '498.

With regard to the recitation of calcium carbonate in Examples 1 and 24 of EP '498, claim 7 is not unpatentable over EP '498. Claim 7 is directed to examples of component (b) such as magnesium silicate, calcium carbonate and aluminum oxide as having advantageous effects in improving the lowering with the time of whiteness of an application fluid containing component (a) and inhibiting wet discoloration of a white portion of the thermal recording material. Furthermore, claim 13 is directed to the use of 1 to 50 parts of component (b) to 100 parts by mass of the urea-urethane compound in component (a). According to description on page 26, lines 11-17, but not claimed, when 50 parts by mass or more of component (b) is used, a decrease in sensitivity is deemed to occur.

In contrast, EP '498 uses talc, i.e. magnesium silicate, and calcium carbonate as pigments (page 92, lines 20-22). EP '498 uses large amount of calcium carbonate that exceeds the 50 parts per 100 parts by mass of the urea-urethane recited in the claims. Example 1 in EP '498 teaches the use of "calcium carbonate dispersion in terms of dry solid: 20 parts by weight" to urea-urethane dispersion in terms of dry solids: 30 parts by weight (page 104, lines 10-15), which is about 67 parts of calcium carbonate per 100 parts of urea-urethane. Example 24 in EP '498 teaches the use of "calcium carbonate dispersion in terms of dry solids: 40 parts by weight" to urea-urethane dispersion in terms of dry solids: 20 parts by weight (page 111, lines 47-52), which is about 200 parts of calcium carbonate per 100 parts of urea-urethane. Because EP '498 teaches away from the invention, it would not have been obvious to one ordinary skill in the art to use the optional acid developers, aluminum oxide, or magnesium silicate in EP '498 to achieve the improvements in claim 7. Therefore, claim 7 is not unpatentable in view of EP '498.

With regard to heat treatment, Examiner argues that "the compositions of the instant claims are substantially the same as those of EP '498," because "claims 4, 6, and 7 do not require any heating." With this amendment, claims 4, 6, and 7 require that at least one of component (a) and component (b) has been subjected to heat treatment at a temperature between 40 °C and 90 °C. Therefore, claims 4, 6, and 7 are not anticipated by EP '498.

Therefore, the rejection of claims 4, 6-10, and 12-18 under 35 U.S.C. §§102(b) or 103(a) should be withdrawn.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

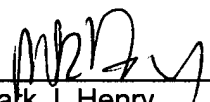
Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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